

WHAT IS CLAIMED IS:

1. A lamp driving device comprising:

a power supplying part that provides a plurality of lamps electrically
5 connected in parallel to each other with power; and

a feedback detection part, the feedback detection part receiving current that
flows via the lamps to provide the power supplying part with a feedback signal that
prevents the power supplying part from providing normal lamps with power, when at
least one of the lamps is abnormal.

10 2. The lamp driving device of claim 1, wherein the feedback detection
part sums the currents that flow each of the lamps to form a summed current, and
the feedback detection part provides the power supplying part with the summed
current.

15 3. The lamp driving device of claim 1, wherein the power supplying part
comprises:

a first switching part that connects or opens a current path through which a
direct current provided from an external device flows;

20 an inverting part that transforms the direct current into a first alternating
current;

a transforming part that transforming the first alternating current that is in a
low level state to a second alternating current that is in a high level state to provide
the lamps with the second alternating current; and

25 a first switching control part that provides the first switching part with a first

switching control signal to turn off the first switching part, when the first switching control part receives the feedback signal from the feedback detection part.

4. The lamp driving device of claim 3, wherein the first switching control
5 part comprises a diode, first, second and third resistors, a voltage source, fifth and sixth transistors and a capacitor, a) a cathode of the voltage source is electrically connected to a ground voltage and an anode of the voltage source is electrically connected to a first node, b) the second resistor electrically connects the first node to a second node, c) an anode electrode of the diode is electrically connected to the
10 second node and a cathode electrode of the diode is electrically connected to a base electrode of the fifth transistor, d) a collector electrode of the fifth transistor is electrically connected to the first node and an emitter electrode of the fifth transistor is electrically connected to a base electrode of the sixth transistor, e) a collector electrode of the sixth transistor is electrically connected to a third node and an
15 emitter electrode of the sixth transistor is electrically connected to a fourth node that is electrically connected to a ground voltage, f) the third resistor electrically connects the third node to the first node, g) the capacitor electrically connects the third node to the fourth node, and h) a first end of the first resistor is electrically connected to the second node and a second end of the first resistor is electrically connected to a
20 ground voltage.

5. The lamp driving device of claim 3, wherein the power supplying part further comprises:

a second switching part that connects or opens a current path through which
25 a direct current provided from the first switching part device flows toward the

inverting part; and

a second switching control part that receives a signal from the feedback detection part, the signal corresponding to a sum of the currents that flow each of the lamps, the second switching control part comparing the signal with a predetermined
5 reference signal to form a second switching control signal, and the second switching control part providing the second switching part with the second switching control signal.

6. The lamp driving device of claim 1, wherein the feedback detection
10 part comprises:

an AND operation section that receives currents that flow each of the lamps, so that the AND operation section provides the power supplying part with the feedback signal when one of the currents is out of a predetermined range; and

an adding section that sums the currents that flow each of the lamps to
15 provide the power supplying part.

7. The lamp driving device of claim 6, wherein the AND operation section outputs the feedback signal, when one of the currents that flows each of the lamps is below the predetermined range.

8. The lamp driving device of claim 6, wherein the power supplying part, the AND operation section and the adding section are commonly grounded.

9. The lamp driving device of claim 1, wherein the feedback detection
25 part detects an opening of the lamps.

10. The lamp driving device of claim 1, wherein the feedback detection part controls an amount of currents that flows the lamp.

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11. A backlight assembly comprising:

i) a lamp assembly that includes a plurality of lamps generating a light;

ii) a lamp driving part including:

10 a power supplying part that provides a plurality of lamps electrically connected in parallel to each other with power; and

a feedback detection part receiving current that flows via the lamps to provide the power supplying part with a feedback signal that prevents the power supplying part from providing normal lamps with power, when at least one of the lamps is abnormal; and

15 iii) a receiving container that receives the lamp assembly and the lamp driving part.

12. The backlight assembly of claim 11, wherein the feedback detection part sums the currents that flow each of the lamps to form a summed current, and
20 the feedback detection part provides the power supplying part with the summed current.

13. The backlight assembly of claim 11, wherein the power supplying part comprises:

25 a first switching part that connects or opens a current path through which a

direct current provided from an external device flows;

an inverting part that transforms the direct current into a first alternating current;

a transforming part that transforms the first alternating current that is in a low level state to a second alternating current that is in a high level state to provide the lamps with the second alternating current; and

a first switching control part that provides the first switching part with a first switching control signal to turn off the first switching part, when the first switching control part receives the feedback signal from the feedback detection part.

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14. The backlight assembly of claim 13, wherein the first switching control part comprises a diode, first, second and third resistors, a voltage source, fifth and sixth transistors and a capacitor, a) a cathode of the voltage source is electrically connected to a ground voltage and an anode of the voltage source is electrically connected to a first node, b) the second resistor electrically connects the first node to a second node, c) an anode electrode of the diode is electrically connected to the second node and a cathode electrode of the diode is electrically connected to a base electrode of the fifth transistor, d) a collector electrode of the fifth transistor is electrically connected to the first node and an emitter electrode of the fifth transistor is electrically connected to a base electrode of the sixth transistor, e) a collector electrode of the sixth transistor is electrically connected to a third node and an emitter electrode of the sixth transistor is electrically connected to a fourth node that is electrically connected to a ground voltage, f) the third resistor electrically connects the third node to the first node, g) the capacitor electrically connects the third node to the fourth node, and h) a first end of the first resistor is electrically connected to the

second node and a second end of the first resistor is electrically connected to a ground voltage.

15. The backlight assembly of claim 13, wherein the power supplying
5 part further comprises:

a second switching part that connects or opens a current path through which
a direct current provided from the first switching part device flows toward the
inverting part; and

a second switching control part that receives a signal from the feedback
10 detection part, the signal corresponding to a sum of the currents that flow each of the
lamps, the second switching control part comparing the signal with a predetermined
reference signal to form a second switching control signal, and the second switching
control part providing the second switching part with the second switching control
signal.

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16. The backlight assembly of claim 11, wherein the feedback detection
part comprises:

an AND operation section that receives currents that flow each of the lamps,
so that the AND operation section provides the power supplying part with the
20 feedback signal when one of the currents is out of a predetermined range; and

an adding section that sums the currents that flow each of the lamps to
provide the power supplying part.

17. The backlight assembly of claim 16, wherein the AND operation
25 section outputs the feedback signal, when one of the currents that flows each of the

lamps is below the predetermined range.

18. The backlight assembly of claim 16, wherein the power supplying part, the AND operation section and the adding section are commonly grounded.

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19. The backlight assembly of claim 11, wherein the feedback detection part is formed on a printed circuit board that includes first receiving holes, and each of the lamps is inserted into the respective first receiving holes.

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20. The backlight assembly of claim 19, wherein the receiving container comprises:

a first receiving container including a bottom plate and a first sidewall protruding from an edge of the bottom plate; and

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a second receiving container including a second sidewall, the second receiving container being disposed inside of the first receiving container, the second sidewall including second receiving hole corresponding to the first side hole that allows the lamps penetrating the second sidewall so that the printed circuit board is disposed between the first and second sidewalls.

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21. The backlight assembly of claim 11, wherein each of the lamp corresponds to a cold cathode fluorescent lamp (CCFL) that has a lamp tube and two internal electrodes disposed in the lamp tube, an external electrode fluorescent lamp (EEFL) that has a lamp tube and two external electrodes disposed outside of the lamp tube, or a external and internal electrode fluorescent lamp (EIFL) that has a lamp tube, one internal electrode and one external electrode.

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22. A liquid crystal display apparatus comprising:

a backlight assembly including i) a lamp assembly that includes a plurality of lamps generating a light, and ii) a lamp driving part having a) a power supplying part
5 that provides a plurality of lamps electrically connected in parallel to each other with power, and b) a feedback detection part, the feedback detection part receiving current that flows via the lamps to provide the power supplying part with a feedback signal that prevents the power supplying part from providing normal lamps with power, when at least one of the lamps is abnormal; and

10 a liquid crystal display panel assembly that transforms a light generated from the lamps of the backlight assembly into an image.

23. The liquid crystal display apparatus of claim 22, wherein the feedback detection part is formed on a printed circuit board.

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